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THE ORIGINS OF LIFE AND EVOLUTION

MBL Lectures in Biology, Volume 1

The study of the origins of life is obviously complicated by the lack of hard scientific data. However, recent advances in geology, paleobiology, molecular and cellular biology, and space exploration dictate a re-evaluation of widely held beliefs about life's origins and justify the proposal of some radical new theories.

For example, Oparin's classic proposal that life began in the oceans has been accepted without question by generations of scientists and laymen. However, some contributors to **The Origins of Life and Evolution** suggest that this theory contradicts current thinking about thermodynamics and biochemistry. One contributor suggests that the crucial transformation of inorganic precursor chemicals into self-replicating organisms is more likely to have occurred in water droplets suspended in the hot primeval atmosphere than in the sea.

Other contributors to this volume offer new perspectives on topics such as:

- morphological and organic geochemical studies of ancient rock deposits
- experimental reconstruction and testing of hypotheses about the synthesis of organic molecules from inorganic ones
- presence of organic and pre-organic compounds in interstellar space
- evolutionary relationships between prokaryotes and eukaryotes
- influence of early life on the climate and geology of the primeval earth
- phylogenetic characterization of ancient microorganisms

The papers in **The Origins of Life and Evolution** cover a wide spectrum of scientific inquiry, and will be of interest to biologists, biochemists, biophysicists, geologists, biogeologists, organic geochemists and cosmochemists, ecologists, and all other scientists concerned with the origins and evolution of life.

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MBL Lectures in Biology
Volume 1

The Origins of Life and Evolution
Harlyn O. Halvorson and K.E. Van Holde, Editors
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